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DERWENT-WEEK: 200281

TITLE: Method for forming silicon carbon nitride layer on low-k material - preventing delamination occurring at the interface between silicon carbon nitride layer and low-k layer

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PATENT-FAMILY:

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TW 471112 A	January 1, 2002	N/A	000	H01L 021/76

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
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INT-CL (IPC): H01L021/76

ABSTRACTED-PUB-NO: TW 471112A

BASIC-ABSTRACT:

NOVELTY - The present invention discloses a method for forming **silicon carbon nitride** layer on low dielectric constant (low-k) material which includes

the following steps: (1) forming a first low-k dielectric layer on a semiconductor substrate, (2) forming silicon carbide layer on the first low-k dielectric layer, (3) conducting ion implantation on the silicon carbide layer to convert the silicon carbide layer into the **silicon carbon nitride** layer, in which the **plasma ions comprise nitrogen** ions, such as NH3 or N2; in which the material of the first low-k dielectric layer comprises FSG, SiLK, FLARE or nanoglass. The forming method for silicon carbide layer includes obtaining by conducting plasma enhanced chemical vapor deposition (PECVD) in an environment containing Si(CH3)4 (referred as 4MS in the industry), or SiH(CH3)3 (referred as 3MS in the industry), SiH2(CH3)2 (referred as 2MS in the industry), SiH3(CH3) (referred as MS in the industry).

CHOSEN-DRAWING: Dwg.0/1

TITLE-TERMS: METHOD FORMING SILICON CARBON NITRIDE LAYER LOW MATERIAL PREVENT DELAMINATE OCCUR INTERFACE SILICON CARBON NITRIDE LAYER LOW LAYER

DERWENT-CLASS: L03 U11

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